



MARYLAND FIRE AND RESCUE INSTITUTE • UNIVERSITY OF MARYLAND

Emergency Vehicle Operator

**Lesson 6-1:
Driving Range Rules and
Exercise Demonstration Videos**



Student Performance Objective

- The student will be able to explain and demonstrate application of the rules and procedures during driving range exercises, with guidance.

Overview

- Range Safety Rules
- Serpentine Exercise
- Stall Parking Exercise
- Lane-Change Exercise

Overview

- Turning-Around Exercise
- Diminishing Lane Clearance Exercise
- Controlled Braking Exercise

Range Safety Rules

- Headlights must be on
- No unauthorized vehicles or people can be on course
- All vehicle occupants must wear restraints
- Resetting cones will be done by instructors when there are NO vehicles on the course
- Fire extinguishers must be carried on all vehicles in the range

Range Safety Rules

- The maximum speed is 25 mph
- The driver will be signaled by verbal cues
- The distances between cones will be adjusted to fit the vehicles as required
- Range exercises will not be held if the range is wet, icy, or snow-covered
- All vehicles will be inspected by instructors and EVOs that day
- Participants must dress appropriately for the weather

Range Safety Rules

- Guidelines
 - Students will present valid licenses for the proper class of vehicle they will drive
 - Instructors will demonstrate the course
 - Students will make arrangements with their chiefs and/or presidents to use vehicles from their departments
 - MFRI will not provide any vehicles for the exercises

Range Safety Rules

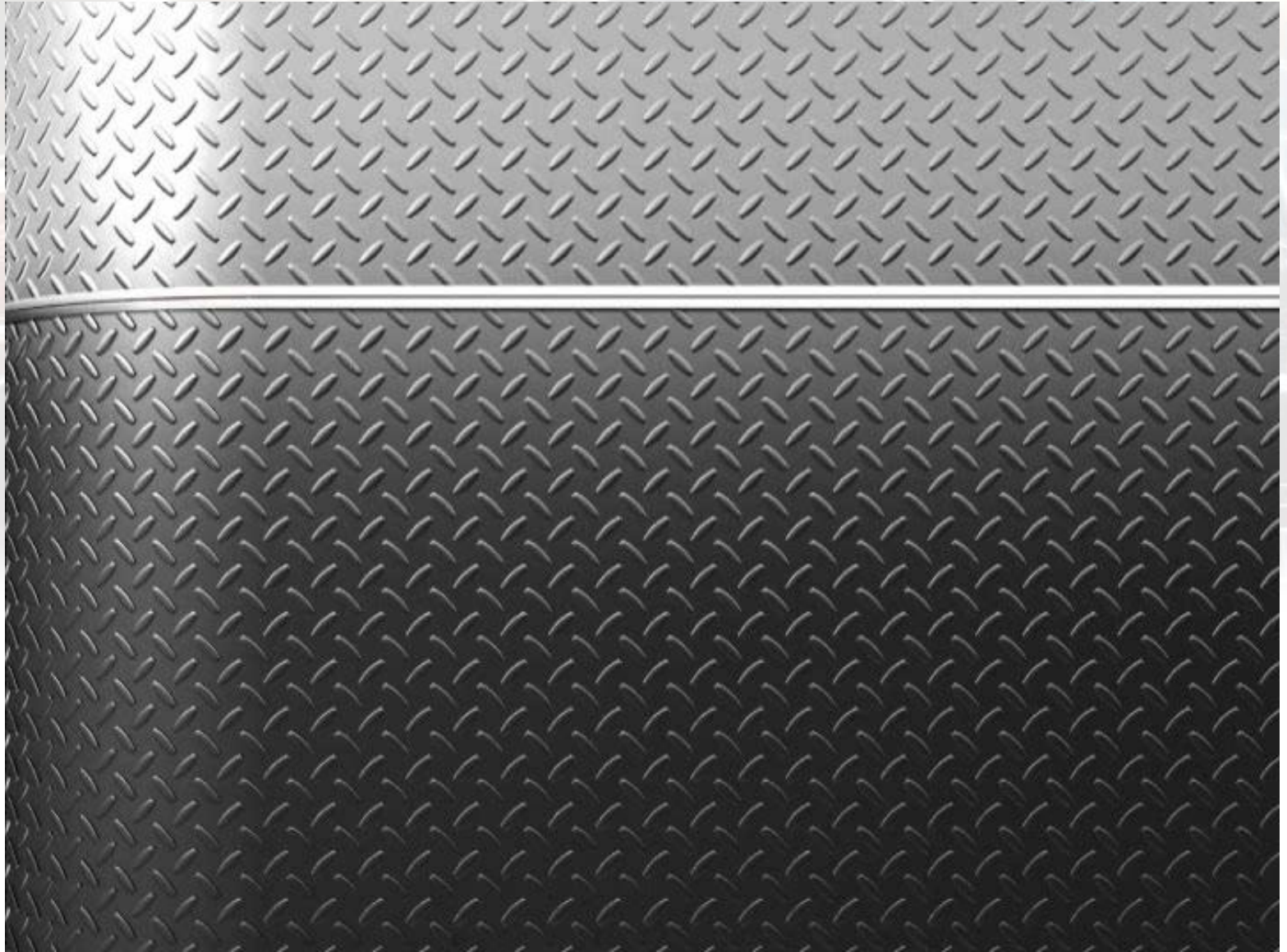
- Guidelines
 - Students will bring two copies of their station's pre-trip checklist
 - Students must be accompanied by an instructor while negotiating the course
 - Students will complete the exercises without striking cones
 - Instructors will sign off on all 7 exercises and must obtain the sign-off sheets (signed by each student's chief officer) for the vertical clearance exercise, Homework 1-2-1

Range Safety Rules

- The Safety Officer
 - Designates the secure area for conducting activities
 - Keeps bystanders and observers clear of the activity
 - Sets up a system of uniform hand signals and backing procedures
 - Ensures that all pre-response safety checks are completed prior to the start of the driving range

Range Safety Rules

- The Safety Officer
 - Ensures non-participating vehicles are restricted from the area
 - Monitors the use of range safety equipment
 - Controls all people and vehicles in the driving area
 - Alerts the lead instructor and stops all activities that are deemed unsafe



Serpentine Exercise

- Purpose: measures driver's ability to steer the vehicle within the close limits without stopping
- Repetition: allows the driver to move forward and backward through the evolution with familiarity
- Pattern: allows the driver to properly steer the vehicle in and out between adjacent cones

Serpentine Exercise

- The serpentine exercise provides practice in directional steering
- Potential performance problems include
 - Improper entry angle
 - Under- or over-steering
 - Improper use of mirrors

Serpentine Exercise

- Set Up
 - Four cones spaced 30 to 38 feet apart
- Operator's responsibility
 - Drive the vehicle through and then back through

Stall Parking Exercise

- Purpose
 - Drive past a docking bay and back into the space
 - Back down a street, alley, or confined space with vehicles on either side
- Repetition: driver moves forward and backward through the evolution
- Pattern: driver will properly steer the vehicle into a confined space

Stall Parking Exercise

- The stall parking exercise
 - Provides practice in backing up
 - Provides practice for parking an ambulance at a hospital emergency room unloading point
- Potential performance problems
 - Under- or over-steering in reverse
 - Relying on partner rather than mirrors

Stall Parking Exercise

- Set Up
 - 20 to 40 feet from the “street” line
 - Stall at least 12 feet wide by 20 feet deep
- Operator’s responsibility
 - Back into a stall from the left or sight side
 - Drive out 40 feet then back into the stall from the right or blind side
 - Stop the vehicle 12 inches from the “street” line markers

Lane-Change Exercise

- Purpose: measures driver's ability to make sharp turns and steer the vehicle within close boundaries.
- Repetition: driver moves forward and backward through the evolution.
- Pattern: driver will properly steer vehicle from lane to lane between adjacent cones. This maneuver should be done without stopping.

Lane-Change Exercise

- The lane-change exercise provides practice in making right and left turns and establishing precise alignment through lanes
- Potential performance problems include
 - Speed fluctuation
 - Beginning turns too early or too late
 - Under- or over-steering

Lane-Change Exercise

- Set Up
 - 250 to 270 feet long and 46 feet wide
 - Alternating cones stalls placed every 80 to 85 feet, 12 feet wide
- Operator's responsibility: make the series of right and left turns to move through each of the successive stalls and then reverse direction and back through

Turning-Around Exercise

- Purpose: measures driver's ability to turn the vehicle around in a confined area in order to move or position it
- Repetition: driver moves vehicle forward and backward through evolution
- Pattern: driver will properly steer vehicle into confined area between adjacent cones and back out to reverse direction

Turning-Around Exercise

- The turning around exercise
 - Provides practice in pulling into a narrow space and backing up
 - Develops valuable skills for making various types of turnabouts
- Potential performance problems
 - Under- or over-steering in forward and reverse
 - Not using mirrors appropriately to judge distances
 - Crossing too many lanes of traffic

Alley Dock Exercise

- Set Up
 - 12 feet wide
 - 20 feet deep
- Operator's Responsibility
 - Back into a confined area from the left or sight side
 - Drive out 40 feet, then back into the area from right or blind side

Diminishing Lane Clearance Exercise

- Purpose: measure driver's ability to steer the vehicle in a straight line while braking, judge distance to objects, and stop within one foot of an obstacle
- Repetition: driver moves vehicle forward and backward through evolution
- Pattern: driver will properly steer the vehicle within a course bordered by cones which are progressively closer together without stopping

Diminishing Lane Clearance Exercise

- The diminishing lane clearance exercise provides practice in negotiating a narrow track with a wide vehicle and maintaining a straight path of travel if emergency braking or stopping is required
- Potential performance problems
 - Speed fluctuations
 - Improper use of mirrors

Diminishing Lane Clearance Exercise

- Set Up
 - 75 feet long
 - For an 8-foot vehicle the lane should be 9 feet 6 inches at the start and 8 feet 2 inches at the end
- Operator's responsibility: driver must drive the vehicle between the cones until reaching the end of the course and then back through it.

Controlled Braking Exercise

- Set Up
 - A cone-marked approach lane 12 feet wide, leading to a cone barrier and continuing 100 feet beyond the barrier
 - A left lane adjacent to the approach lane, starting 50 feet from the barrier and extending 60 feet beyond the barrier with the ends closed
 - A double cue cone in the approach lane 50 feet from the barrier

Controlled Braking Exercise

- Remember
 - Hands at 9 and 3
 - If the wheels lock up, release the brake to regain rolling traction
 - Threshold braking is braking to the point of lock up but lock up does not occur

Controlled Braking Exercise

- Operator's responsibility
 - Proceed down the approach line at a pre-selected speed of 20-25 mph as conditions permit
 - At the double cue cone, the instructor will give verbal command to initiate braking and evade the barriers
 - When the command is given the student should steer the vehicle to evade the barrier, and simultaneously brake.
 - Steer back to the right- or left-hand lane and come to a full stop after clearing the first barrier and prior to the second barrier

Controlled Braking Exercise

- Potential performance problems
 - Locking brakes and wheels and losing steering control
 - Over-steering and not making it back to the proper lane in time
 - Under-steering and hitting the first barrier
 - Anticipating the cue and braking too soon
 - Not coming to a full stop at the end of the course
 - Brake fade

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Review

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